

The University of Chicago

THE USE OF EXPERIMENTAL
METHOD IN RECENT AMERICAN
THEOLOGY

A PART OF A DISSERTATION SUBMITTED TO THE
FACULTY OF THE DIVINITY SCHOOL IN CANDI-
DACY FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

1935

By
RAYMOND EARL MORGAN

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CHAPTER VII

EXPERIMENTAL THEOLOGY AND THEORY OF KNOWLEDGE

Summary of Preceding Chapters

From a detailed examination of the nature of the experimental method as it is employed in the natural and social sciences, and as it has been adapted to the subject matter of philosophy by certain pragmatists and realists, we have come to the following conclusions regarding the essential characteristics of an experimental theology:

(1) An experimental theology will be capable of translation into the terms of an objective theory of value, according to which values are observable items of nature. Values, then, are the data which experimental theology will examine, and about which it will formulate hypotheses, theories, and laws capable of organization into a system.

(2) Experimental theology will be tentative; that is, it will be open to criticism, correction, and extension in the light of advancing knowledge.

(3) Experimental theology will dispense with all non-empirical and non-rational methods of obtaining "knowledge" and of testing beliefs. Traditional and ecclesiastical authority, intuitive insights, and alleged revelations of a supernatural character will be regarded as objects of investigation, criticism, and correction, rather than as tests of truth.

(4) Experimental theology will be "disinterested" in the sense that the investigator will be loyal to developing truth rather than to any institution, tradition, creed, or philosophy.

Applying these tests of an experimental procedure in theology to the writings of three systematic theologians, three Christian ethicists, and three philosophers of religion who have advocated the use of the experimental method in theology, we came to the following conclusions:

(1) Augustus Hopkins Strong's theological system bears almost no positive relation to the type of theology we have proposed. Such a system as Dr. Strong's can never be scientific in the modern sense, since it depends upon a super-rational faith in a supernaturally revealed scripture and upon supernatural guidance in the interpretation of that scripture. Progress in theological thought is limited by Dr. Strong to the re-interpretation of revealed truth.

(2) William Newton Clarke's theology cannot be translated into a naturalistic, objective theory of value, since human values are regarded as but faint shadows of "real" values which are divine, having been revealed in Christ and in Christian tradition. Faith is placed alongside knowledge as a unique and special way of knowing to which religion alone has recourse. The canons of scientific criticism do not apply to "knowledge" obtained in this way.

(3) William Adams Brown also operates upon a supernatural value theory, according to which values are not directly observable, - only their effects upon human conduct can be observed. He holds that religion must employ other, more certain, ways of knowing than those in use among scientists. He frankly acknowledges the apologetic motive and makes no claim to impartiality in investigating the doctrines of the Christian religion. The moral effects of holding certain beliefs as true are counted by him among the evidences in support of the claims of the Christian religion.

(4) John Baillie, among those who approach theology from the side of ethics, makes no claim to scientific validity for his interpretation of religion. Religion, for Baillie, is a "heroic" affirmation that reality supports our highest moral values, an affirmation made in spite of all evidences to the contrary.

(5) Reinhold Niebuhr holds a very similar position, but stresses the "realistic" aspects of man's struggle to preserve values which have no apparent basis in observable conditions. Like Baillie, Niebuhr errs in separating values from reality and then seeks ways in which they can be brought into relation again.

(6) E. S. Brightman, in at least one book,¹ emphatically advocates the use of experimental method in religion, but because he subscribes to a theory of value according to which values cannot be subjected to empirical investigation, he has not succeeded in putting that method into practice. In view of his general temper, his willingness to face all issues with the utmost frankness, and his boldness in venturing into strange seas in search of the truth, we hold that all Dr. Brightman needs in order to become one of the creators of a genuinely empirical science of theology is a theory of value according to which values are observable items of nature, and, therefore, capable of empirical treatment.

(7) Edward Scribner Ames employs an objective, naturalistic theory of value similar to that of John Dewey. He repudiates all non-rational, non-empirical ways of knowing in any field. While he meets all of the requirements we have set up, he has not given us an experimental theology, but rather a philosophical basis for an experimental theology.

(8) Walter M. Horton, especially in his Theism and the Modern Mood, has advocated an experimental theology of the very

¹Finding of God (New York: The Abingdon Press, 1930), p. 23.

type we have proposed. But he places in the very center of his theological system beliefs which he admits are untested. Thus, in practice, he repudiates the principles which he has advocated in theory.

(9) Henry Nelson Wieman meets all of the requirements which we have set up for an experimental theology. His theory of value is objective and naturalistic; he insists that experimental method is the only reliable means of obtaining knowledge in any field; he is tentative and experimental in his statements of belief; and he is truly disinterested, in the sense that he is willing to follow his method without regard to consequences to inherited beliefs or cherished opinions.

Experimental Method and Theory of Knowledge

It yet remains for us to examine two basic assumptions of our thesis: (1) whether the experimental procedure is the only means of obtaining dependable knowledge of particulars in any field and (2) whether the experimental procedure is capable of revealing that type of knowledge with which religion is primarily concerned, knowledge of God. The first of these questions will be treated in the present section; it lies in the area of theory of knowledge. The second lies in that area in which theory of knowledge and theory of value meet and will be considered in the concluding section.

Theory of knowledge has set the problems and determined the course of modern philosophy. Idealists and realists have represented the two sides of the epistemological issue, while the pragmatists have held a middle ground since James. But of late, there has been genuine advance towards a solution of the problem of knowledge. Nonconformists like John Dewey, C. I. Lewis, Morris

Cohen, and A. E. Murphy² are combining the insights of the older schools while eliminating many over-statements and errors of the respective systems. While there are, of course, many points of disagreement and of dispute among these various writers, yet the amount of agreement is one of the most remarkable features of contemporary philosophy.

All of these writers agree that the knowing process begins with some sort of immediate awareness, corresponding to the "intuitive experience" of the older phraseology, except that this awareness in itself is not thought of as constituting or revealing knowledge, but rather as the "raw material" of knowledge, - the given element in experience. It is objective to the experiencing organism, and yet the fact that it is experienced at all is dependent upon the experiencing organism.

But the given can never be described nor communicated as such; as soon as one begins to describe it one applies categories to it. At that point in experience, it ceases to be the merely given and becomes an object. We say, "it is round" or hard or heavy, etc. In other words, we find its meaning by describing its relations to other objects and events. We say, "it is a baseball", thus relating the given to roundness, hardness, "throwability", and to all of the complexities of the game of baseball. It is at this stage that knowledge arises, in the categorizing of experience.

It would not be difficult, however, to overlook an important aspect of the knowing process at this point. It is the

²We refer to Experience and Nature (Chicago: Open Court Publishing Co., 1925), Mind and the World Order, (New York: Chas. Scribner's Sons, 1929), Reason and Nature (New York: Harcourt, Brace and Co., 1931), and to an article in the Philosophical Review, XXXVI, 121 ff., by these respective philosophers.

problem aspect, in which the mind struggles with the given in search of the proper category. This can best be understood if we consider more carefully what we mean by the "categorizing of experience."

When we say, for example, it is round, we are really saying in effect that if we were to pass our hands over it we would encounter no sharp edges upon its surface. When we say, it is hard, we mean that if we attempted to press our fingers into it, it would "resist" that pressure. When we say, it is a baseball, we are making all of these predictions at once, plus a great many more that are involved in the playing of baseball.³

So long as the given remains merely given, it is not an object in our consciousness, nor can it be said that we have any knowledge of it. And yet, the given is experienced. Thus, we cannot identify experience and knowledge; knowledge is experience which has been categorized. So long as the given is merely given, it may give rise to emotional responses akin to the feelings of awe and reverence associated with religion. This is a stage, as we have said, which is antecedent to knowledge. It is characterized by a kind of mystery.

In ordinary experience this stage of the merely given is passed through so quickly as to escape our observation. In familiar surroundings amid familiar objects, we "immediately" apply the suitable category to the experienced given, converting it into an object of knowledge. But frequently we are presented with problems in this respect. Is the noise we hear late at night in a big house in which we are sleeping due to expansion and contrac-

³We are largely dependent at this point upon Bridgman's Logic of Modern Physics (New York: The Macmillan Co., 1927) in which he develops the conception of the operational nature of concepts.

tion of timbers or to the advent of a burglar? So long as the noise fills our soul with dread so that we are "paralyzed", it is merely given. If, on the other hand, we relate the noise to one or the other explanation, it passes into knowledge. We say, it is due to the cold, or, it is a burglar coming up the stairs. Of course, either judgment or both of them may be mistaken. Knowledge may be either true or false.

Returning to the simpler illustration of the baseball, the truth of our implied or expressed predictions can be tested in only one way,- by carrying out in imagination or in overt action the various mainpulations implied by our categorizing of the given. If we say for example, it is hard, but upon investigation find that our fingers easily press into it, we have erred in our judgment of the hardness of the object. But in no sense have we proved the falsity of our experience of the given, nor have we any reason to doubt the reality of hardness. We were merely mistaken in the choice of the category, hard, as applicable to the given. Instead, we accept the opposite category, soft, as better suited to the nature of the given, since by soft, we mean that into which our fingers may be easily pressed.

Not only are the categories thus operational in character, they are also socially fashioned.⁴ They arise out of the social experience of the group. Ideally, each category should be called by one name and each category-name should refer to but one set of operations of which it is the symbol. But actually the same category-name is used for many different categories or sets of operations. For example, space is the category-name for the process of laying yard-stick-end to yard-stick-end, for the process of measuring distance by means of surveying instruments, and for the

⁴Lewis, Mind and the World Order, develops this conception of the social determination of the categories and assigns to these categories the term, the a priori.

process of measuring distance by comparison with the velocity of light.

This account of the knowing process according to which knowledge arises by means of the categorizing of the given element in experience, illuminates the nature of error. To err is to be mistaken in the categorial nature of the given. To return to our illustration, when we found that our fingers pressed easily into the given, we knew that we had erred as to the applicability of the category hard to the given. In the same way we are able to distinguish between fact and illusion, all experiences are real when the proper categories are applied; all experiences are subject to misinterpretation. If a given experience is judged to be a dream then I confirm or disprove that judgment by means of experiments designed to test the applicability of the category dream to the given experience. If I judge that Sam Jones is my friend then I can test the validity of that judgment by means of experiments designed to test the applicability of the category friend to Sam Jones.

To be sure most of the time we do not doubt our judgment in such matters. There is no opportunity for any general skepticism according to this view. Only one problem arises at a time, the rest of the body of knowledge rests intact while the particular difficulty is being resolved. There is according to this view no general problem of knowledge, no wholesale questioning of our ability to know, but only a particular question as to the rightness of our knowledge in the present instance. On the other hand there is no absolute knowledge that cannot be questioned except knowledge of the categories which is formal and abstract. Knowledge of particulars is always relative, approximate, experimental. Error is always possible, further experiments may reveal

the presence of error at any time.

Long ago Hume demonstrated that wholesale skepticism was compatible with either the realistic or idealistic account of knowledge. If idealism is pushed to the limit it ends in solipsism; if realism becomes extreme, mind is lost in a world of objects; in either case knowledge is impossible. But the problem is an unreal one. Mind and nature are not opposites that must somehow be brought in relation to each other by means of the philosopher's art. They are already in relation. Thinking is a response of the human organism to the doubtful element in its environment; thinking is the problematic reaction of the whole person. To think is to act mentally; thinking is, therefore, as dependent upon the body as any other human action. Thinking bears the same relation to the bodily organ brain that hearing bears to the bodily organ ear. Thinking is our name for the process of imaginative experimentation by means of which we acquire knowledge.

The function of mind in the knowing process is to apply the categories to given experience and to test the rightness of the chosen category in the given instance. Without the given experience thinking is impossible; without thinking experience is meaningless. Knowledge is experience categorized.

The over-emphasis upon the element contributed by mind to the production of knowledge is known as rationalism. The error or rationalism consists in making extravagant claims in behalf of "reason." According to this view, the mind is supposed to operate in accordance with certain "laws of reason" which cannot be deduced from human experience but are a priori. The basic error lies in an unnecessary and false separation of mind from nature which results in an attempt to rise above experience altogether. The correction for this error is the acceptance of nature as

inclusive of mind, while at the same time recognizing that mind "brings something" to the present experience that is not in the experience itself. This something is the system of concepts and categories that is the product of social experience and yet that is prior to the given experience of the individual.

The opposite error, of over-emphasising the role of particular experiences in the production of knowledge, is the error of empiricism. The fact that experience cannot categorize itself is the answer to all extreme claims in this direction. We cannot directly experience trees and stones and houses, for as soon as we have said "trees" and "stones" and "houses" we have invoked whole systems of categories to our interpretative aid. All that can be directly experienced are data of consciousness, candidates for knowledge. Without the categorizing function of mind experience is but "buzzing confusion" and that is all.

Another related error is that of intuitionism which views immediate experience as a direct comprehension of reality. This is another instance of over-emphasis upon the role of experience in the process of knowing, except that in this case the "truest knowledge" is admitted to be incommunicable and ineffable. The experience is known only to him who has it. Obviously there is a different use of the word knowledge involved in this instance from the more ordinary use of the word, since ordinarily by knowledge we mean a true acquaintance with the real as distinguished from a false acquaintance in the case of error. The intuitionist, on the other hand, means the immediate apprehension of the "real" by means of direct awareness, without recourse to tests of truth or falsity.

As C. I. Lewis has pointed out in the case of Bergson,⁵

⁵Mind and the World Order, pp. 40-42.

the intuitionist usually does not differ from others in his account of the process by means of which common sense and scientific knowledge are acquired, but discounts such knowledge as insignificant in comparison with the type of knowledge to which he has access. In ordinary matters it may be well and good to use an experimental method of acquiring knowledge, but in matters of deep importance intuition is the one sure guide to knowledge of reality.

In so far as intuition is the direct experience of the given it is an indispensable element in acquiring knowledge. But awareness of the given cannot constitute knowledge, it can only supply data upon which the mind may operate towards the production of knowledge. Without the making of predictions concerning the applicability of certain categories to the given, and the testing of these predictions by observation, reason, and experiment, knowledge is impossible.

So long as the intuitionist reserves the use of the term "true knowledge" for the immediate experience of the given and admits that the experience is ineffable and for purposes of profound enjoyment only, there is no disagreement between his position and our own, except a disagreement over the proper use of words. But generally speaking intuitionists do not stop at this point; they usually contend that their intuition furnishes a guide to practical and theoretical action. They claim not only that intuition is an experience of reality but that such intuitional experience constitutes knowledge in the ordinary sense of a true acquaintance with reality as distinguished from a false acquaintance.

Now it is clear from our analysis of the process of knowing that immediate experience cannot give knowledge without the aid of intelligence, and that the intuitionist is led to deny the

function of intelligence because it is rapid and somewhat automatic in moments of great insight. Because he is unconscious of the function of mind and because he thus automatically categorizes his experience, he lays claim to knowledge by immediacy. It is a natural claim, especially in the light of his distrust of mere reason in matters of great importance, but it is a claim easily refuted upon closer analysis.

The present account of the nature of the knowing process through the categorizing of experience of the given does full justice to the claims of empiricism and realism in that it acknowledges the primacy of experience and the objectivity of the given. The claims of rationalism and idealism, also, are recognized in the importance accorded to mind in the knowing process. The claim of pragmatism that the test of truth is to be found in the realm of consequences rather than in correspondence with an a priori Truth is, of course, basic to the present position. The claim of intuitionism that in direct awareness of reality we experience the data of knowledge is recognized without commitment to the error of identifying these data of knowledge with knowledge itself.

Experimental Knowing and Scientific Method, - The pattern for the acquisition of knowledge becomes, then, that of the application of socially formulated categories to the data revealed in experience involving, as we have seen, the making of expressed or implied propositions concerning the nature of the given and the testing of the validity of these propositions by observation, reason, and experiment. It will be seen that this amounts to saying that the acquisition of knowledge involves the use of the principles of scientific method, that all knowing involves some approximation to the experimental procedure employed in the

sciences.

But this is by no means to limit all knowledge to the type of exact knowledge belonging to the developed sciences. The sciences have refined to a remarkable degree the method of knowing employed by common sense and in ordinary living. These refinements of scientific method constitute the several techniques of the sciences. But to employ in principle the same procedure which is found to characterize all of the techniques of the several sciences is to employ scientific method, whether one is conscious of it or not, and whether one cares to use that term or another.

To be sure, for the sake of clearness, it would be better to use another term (or category-name) either for the specialized techniques of the sciences or for the looser methods of ordinary living, but such a distinction has not yet won social acceptance. Accordingly we have used the terms scientific and experimental both in connection with the uses of the sciences and in the looser uses of ordinary, non-scientific living, depending upon the context or upon the use of descriptive terms to indicate our meaning.

All knowledge obtained by experimental method is probable only, since further experiment may prove its falsity. If all knowledge of particulars is obtained, as we have said, by some approximation of experimental method, then all knowledge of particulars is probable only, and is subject to revision in the light of future experiment. But the corrective for false or imperfect knowledge lies within the same procedure by which it was itself obtained, the experimental method. The experimental method is the only method yet discovered or devised that is thus self-corrective. For experimental method requires the persistent testing of ideas, beliefs, and opinions whenever open to doubt,

the constant relation of each proposition to the total body of propositions of which it is a part, and the reduction of the world of experience to order and meaning.

It is upon these grounds that it is claimed that the experimental method is the only dependable method of gaining knowledge in any field.

Experimental Method and Knowledge of God

There are many who will agree with what we have said regarding the method of obtaining knowledge in ordinary areas of life who will, nevertheless, deny the possibility of the use of the experimental method in religion. We have already noted many instances of this kind in our survey of American theology. There is a prevailing dualism between knowledge of fact and knowledge of value among contemporary theologians and philosophers of religion which attempts to make religious knowledge uniquely different from other types of knowledge and to credit religion with the possession of a unique method of obtaining knowledge.

Now if what we have said in the preceding section is at all correctly stated, then the view of the uniqueness of religious knowledge falls, and all knowledge is of one kind, differing only in subject matter. There is but one method of knowing in any sphere, the method of observation, reason, and experiment, which in its more refined forms constitutes the method of modern science, but which in principle is implicit in all acquisition of knowledge. Either that method is applicable to the data of religion, or religious knowledge (in the sense in which we have defined the word knowledge) is impossible.

To be sure, many who deny the possibility of the application of scientific method to religion do so because of an understanding of "scientific" that would limit its use to the mathe-

matical or laboratory sciences. An example of this sort of misunderstanding between those who deny and those who acclaim the use of experimental method in religion occurred in an exchange of articles in the Christian Century between Rufus Jones and H. N. Wieman.⁶ A few months later another similar discussion was published in the same periodical between Dr. Wieman and H. P. Van Dusen.⁷ To both Dr. Jones and Dr. Van Dusen, Dr. Wieman replied that it was not the word, scientific, upon which he wished to insist, but the method of "observation, analysis, inference, and experiment," no matter how rigorously or how loosely applied, the method that is essentially involved in all knowing.

It would seem that Dr. Wieman's position is a sound one, that other alleged methods of knowing are reducible to parts of the experimental method, or are identical with it, or are not ways of knowing at all but only ways of experiencing. We have already discussed the "four ways of knowing" of William Adams Brown in chapter three of this thesis and found the four capable of being reduced to the one method which we are describing. We refer to that discussion here as a case in point. A similar observation might be made in respect to the "four ways of knowing" set forth by John Oman:⁸ awareness, apprehension, comprehension, and explanation. These are not four separate and distinct ways of knowing, but four steps in any complete knowledge process. We cannot be said to know anything accurately and surely until our knowledge has passed through all four of these stages. And the same point may be made in respect to the claims of mystics

⁶Christian Century, "What Saints and Sages See," Feb. 12, 1930.

⁷Ibid., May 27, 1931.

⁸The Natural and the Supernatural (New York: The Macmillan Co., 1931), Part I, Ch. V and Part II.

like Rufus Jones who admits that the insights of the mystic are subject to experiential and social testing before they can be counted upon as dependable knowledge.⁹

What we said in the preceding chapter in respect to the claim of the intuitionist may be repeated here in respect to the claim of the mystic. If the mystic claims that he has in the mystical experience a unique and special way of knowing that gives him sure and certain knowledge beyond the reach of criticism by means of observation and experiment, then we hold that he is falsely identifying the immediate experience of the given with the experience of knowledge. But if, on the other hand, the mystic merely asserts that he has in his mystical awareness access to data not otherwise obtainable, and acknowledges the need of reason in order to translate the experience into knowledge, and the further need of testing and proving that knowledge by observation and experiment, then we are in substantial agreement with the mystic. He is then merely emphasizing an important aspect of religious knowledge, awareness of the richness of the whole of experience.

But it would be a mistake for the mystic to say that there is anything essentially religious about simple awareness (unless he is willing to identify the religious and the merely unknown). As we have pointed out in the preceding section of this chapter, any object may first enter our awareness as a puzzling "somewhat," but it does not become an object of knowledge until, rightly or wrongly, we have applied a category to it. Theories of religious knowledge based upon the primacy of awareness as over against

⁹See especially Spiritual Energies (New York: The Macmillan Co., 1922), chapter IX. Compare also Pathways to the Reality of God (1931), chapters I and II, for an account of Dr. Jones' theory of knowledge and its religious implications.

scientific understanding fail to give due recognition to the fact that awareness is a rudimentary stage in all knowing but a stage which must be superseded if knowledge is to be complete and dependable. It is our thesis that religious knowledge is not unlike any other type of knowledge except that it is knowledge of a certain and distinct aspect of human experience, the experience of values in relation to highest value.

The possibility of religious knowledge is often denied by theologians, supposedly in the interests of religion, either by direct assertions or by implication. This would seem to be the position of those who draw a sharp distinction between religious faith on the one hand, and scientific knowledge on the other. To be sure, faith and knowledge are not identical terms, but the distinction between them is not properly one which identifies faith with religion and knowledge with science. Both faith and knowledge are indispensable to the pursuit of religion and of science. Some knowledge is essential for an intelligent faith in any realm of human endeavor. Faith is based on knowledge, but faith exceeds knowledge in that it makes assertions which go beyond the limits of established knowledge. Intelligent faith, whether in religion or in politics or in science, is based upon reliable evidence. To give up the quest for religious knowledge in exchange for an irrational faith that defies knowledge is to identify religion with obscurantism, and to surrender it to superstition.

It is sometimes asserted that to hold to such an irrational faith in the face of contrary evidence is an act of heroism. Rather, the opposite is more nearly true, the devotee of such a faith refuses to give up his belief because he is afraid of what might happen if he did. He is afraid, in other words, to trust

himself to the world of fact and so he clings to the world of fancy, refusing to be shaken by any amount of evidence pointing to the falsity of his cherished beliefs.

If it can be shown that religious experience can be reduced to an experience of a given in much the same way that ordinary experience can be, and if this given is capable of being categorized, and the categorizing is subject to confirmation or rejection by means of scientific method, then religious knowledge is possible in the same way that all other knowledge is possible. If it is possible, then it is most desirable, and its pursuit will be the urgent task of a genuinely experimental theology.

We have already presented our argument for the possibility of the reduction of religious experience to the experience of the values of life as observable items of nature. We need here only to summarize that argument and to relate it to the present discussion.

Nearly all theologians and philosophers of religion since Ritschl have recognized that the religious experience is an experience of values. What has not been generally admitted, however, is that values are part of the natural order of existence and possibilities. On the contrary, this has been almost universally denied. This denial has taken many forms, all the way from an ambiguous emphasis upon "judgments of value" (in contrast to "knowledge of fact") to a thorough-going Platonic realism that conceives of values as ideal essences from another world only imperfectly embodied in "mere existence." But however theologians and philosophers of religion have conceived of values they have assumed that they must somehow be projected into experience by means of the "will to believe" or by "heroic affirmation" or by means of an irrational "faith."

We have attempted to demonstrate on the other hand, that values belong to the natural order of existence and possibility, that they inhere in real situations in the real world, and that intelligent faith is based upon knowledge of the operation of these values in existence. Values arise out of man's relation to his environment and inhere in natural situations involving his interests and desires together with the natural processes necessary to the fulfillment of those interests and desires. Any attempt to find the nature of value in the interest or desire apart from the environing situation is an attempt to find the whole in a part.¹⁰

All human situations are pregnant with values, some of which we recognize as values, but most of which we are not aware. To be aware of values is to experience a given just as to be aware of an object is to experience a given. But awareness is not knowledge in any complete or accurate sense. In order for a given experience to issue in knowledge, it must be categorized. In the same way, awareness of values does not give us knowledge of values, except in a very rudimentary form. Knowledge of values depends upon the application of suitable categories to the experience of the given.

In other words, it is necessary to make propositions concerning the values experienced, to estimate their relative importance in relation to other experienced values, to relate these propositions and this estimate to the total body of relevant knowledge, and to test the truth of these propositions and of this estimate by means of experimentation and the observation of the

¹⁰A recent discussion of the need of an objective reference for values is contained in an article by W. Preston Warren, "The Ego-Centric Fallacy in Axiology," in International Journal of Ethics, XLIV, 211-221, January, 1934.

consequences of such experiments.

Thus, we stand on the edge of a lake as the sun is setting. We are overwhelmed by the scene that we behold. This is the experience of the given in value. It "puts us in awe." So far, we have no knowledge worthy of the name, only a feeling of impressive wonder. Then we apply the category, beauty, to our experience and find it acceptable. We relate this experience of beauty to others we have had and by the application of the tests of intensity, preference, and inclusiveness, we judge that it surpasses them all. We relate this experience of highest beauty to other experiences of other types of value and conclude that our experience of the sunset has been a religious experience, as well as an aesthetic experience, because the experience of the sunset stands in positive relation to supreme value, which we have defined as that most inclusive system of inter-related values. Thus, we come to the knowledge that we have had an experience of supreme value, recognizing that such knowledge is tentative and experimental, subject to correction and improvement.

But that is not at all to say that the experience of the sunset has given us knowledge of that structure of supreme value which we call God. Knowledge of God as supreme value is obtained in the same way as knowledge of simpler values, but the process is ever so much more complex and the results correspondingly less complete. We gain knowledge of God as we gain knowledge of other intricate processes, that is, by analysis and synthesis, by studying in detail the nature of each part and noting the function of each part in the operation of the whole.

Supreme value is the process of the interaction of values which are so related to one another that all support and magnify one another. We gain knowledge of supreme value or God, therefore,

by observing the values separately and in inter-relation; we formulate hypotheses, theories, and laws concerning their interaction, and concerning the logically necessary structure of their inter-relation; we formulate other hypotheses concerning the growth of this value-system in existence; and, finally, we test these hypotheses and revise them in the light of other accepted knowledge.

It should be noticed that the term, value, is at the same time a category and an experience. There is an experience which we call beautiful as well as a category, beautiful, which we apply to that experience.

It is the function of the several divisions of philosophy concerned with value to define and make more explicit the value categories; it is the function of those sciences concerned with the values of life, the sciences of ethics, aesthetics, and theology, to test the applicability of any given category to any given experience of value. It is the function of philosophical ethics, for example, to define the good and it is the function of ethical science to test the fitness of the application of the category, good, to any given instance of human behavior. Likewise, it is the function of the philosophy of religion to define the nature of supreme value and the relation of lesser values to supreme value and it is the function of the science of theology to test the applicability of the category, supreme value, to any given system of inter-related values.

The great religious traditions of the world are storehouses upon which the religious investigator may draw for observations, for hypotheses, and for records of religious experiments. The resources of philosophy are likewise at his command. The various sciences may be called upon to furnish some of the very richest of materials. Common life is another invaluable source,

the experience of ordinary mortals in ordinary affairs.

To be sure, some aspects of traditional religious belief are beyond the reach of the method we are advocating. The belief in personal immortality is an example. We hold that it is possible to entertain such a belief as an hypothesis while admitting that it is without experimental support, providing that we know of no experimental evidence against it. But it is dangerous to put such an unsupported hypothesis at the center of one's theological system, or to base other beliefs upon it. Our position would be that belief in personal immortality might be retained as a kind of theological luxury, better described as a "hope" than as a belief. On the other hand, the belief that Christian love, which is co-operative good-will in action, is the law of highest value on the human plane, would be a fundamental article of belief tested by countless observations, supported by rigorous reasoning, and verified by an untold number of experiments.

The theological method which we are proposing will consist, not in proving the existence of the kind of God we need in order that our wishes and desires may find fulfilment, nor in proving the existence of the kind of God which religious tradition reveals, but rather in discovering the nature of the kind of God that does exist so far as we are able to discover him, and in setting forth as accurately and as precisely as possible the necessary adjustments that man must make in order that highest value may be achieved.

The religion which will be compatible with an experimental theology will be a religion confining itself to the actualities and possibilities of the real world. It will be committed to an honest faith in the reconstruction of existence so that our most precious values will be increasingly realized. It will give it-

self in passionate devotion to those cosmic and social processes which sustain and magnify those values. Such a religion will make the utmost use of any and all of the techniques which science and invention develop in order to further its own goal.

All of its hopes and dreams and reasoned beliefs will be subject to revision as knowledge advances, but these beliefs and dreams and hopes will be so wedded to reality and to the pursuit of truth that the whole system will not depend upon the retention of any single article of faith. Loyalty to the value producing, value sustaining, and value enhancing processes in the universe, rather than loyalty to any particular belief about them, will supply the necessary dynamic for faith and action, even in times of the most far reaching reconstruction in theology.

